REMARKS

Please note that Milton Oliver is relocating, on or about NOV. 12, 2008, and further correspondence should be directed to CUSTOMER NUMBER 83409 in COTUIT MA.

Applicants acknowledge the Office Action of 14 JUL. 2008 and request reconsideration of the claims as amended.

The present invention is directed to a structure involving surface soldering, i.e. the contact element is soldered with the undersurface of its flat parts 48, 50 onto a conductive path 22 of the upper surface of the circuit board 20.

If the circuit board becomes warmer, due to the influence of the electrical components, and thereby expands its height (becomes thicker), this height increase has no influence on the quality of the electrical contact or on the soldering.

The cited KAWAGUCHI structure, by contrast, is NOT a soldered one; rather, parts 14 and 15 are press-fitted contact elements. See USP 4, 186,982, col. 2, lines 26-28.

These connectors are pressed into holes 30 in circuit board 50, as stated at col. 2, line 30, and col. 4, line 25. Thus, no soldering happens here. KAWAGUCHI therefore provides no suggestion of the present invention, but rather leads in an incorrect direction.

HSIEH uses S-curved feet 48, 50 which are stuck through holes in conductive paths 60 and are secured to these paths 60 by solder connections 58. However, supplemental mechanical fastenings are also provided; see col. 3, line 10.

Here, a mechanical connection is provided by parts 48 & 50, and an electrical connection is provided by solder points 58, which by themselves could not provide a sufficient mechanical connection; see col. 3, line 9

(reference to overstress) and col. 3, lines 37-38.

By contrast, the present invention does not require such a supplemental mechanical connection. HSIEH fails to provide any suggestion of the functionality of the presently claimed structure; rather, HSIEH would lead one in the wrong direction.

The suggested combination of HSIEH and KAWAGUCHI would only be possible, if one employed the press-fit connectors 14 of KAWAGUCHI to replace the solder connections 58 of HSIEH. However, this would not result in the structure now claimed, so that the present invention is not suggested by any hypothetical combination of HSIEH with KAWAGUCHI. Withdrawal of the section 103 rejection, on pages 2-4 of the Action, is solicited.

Responsive to the section 103 rejection on page 5, if one were to attempt to combine KAWAGUCHI with NELSON, one would be replacing the "solder feet" 36, 42 (NELSON Fig. 2B) with the press-fit connectors of KAWAGUCHI, but this would not result in the presently claimed structure. Therefore, reconsideration of the rejection based upon KAWAGUCHI and NELSON is solicited.

Responsive to the section 103 rejection on page 7, the rejection presupposes that NELSON & HSIEH or KAWAGUCHI & HSIEH, teach all of the features which are recited in parent claim 1 which, as the foregoing argument has demonstrated, is not the case. Claims 10 & 11 recite a combination of features not found in the NELSON-HSIEH or KAWAGUCHI-HSIEH structures, and neither of the ORIHARA and CHEN references compensate for those missing features, so the proposed 4-way combinations fail to suggest or make obvious claim 1, as amended, much less the more specific structures recited in dependent claims 10 & 11.

CONCLUSION

The structure recited in main claim 1, and its dependent claims 2-14, provides a secure connection between a circuit board and a contact element. The structural elements of this connection, namely: the flat parts 48, 50 which are secured by solder to the conductor paths 22, are neither anticipated nor suggested by the cited references. Rather, the references would tend to lead a person having ordinary skill in the art in different directions, such as supplemental mechanical securing devices.

The claims, as amended, are now clear and patentably distinguish over HSIEH, KAWAGUCHI, BENDER, NELSON, ORIHARA, CHEN, and the other art of record, taken singly or in combination. Allowance of the claims, and passage of the application to issue, are solicited. If the Examiner detects any remaining informalities, or wishes to make any suggestions to place the application in condition for allowance, he is requested to telephone Applicants' counsel Milton Oliver.

Respectfully submitted,

/Milton M. Oliver/

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